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MAY 1972

**THE VALUES OF JUNIOR OFFICERS. PART II:
THE RELATIONSHIP BETWEEN CAREER VALUES AND RETENTION**

**Idell Neumann
Norman M. Abrahams
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13. ABSTRACT A continuing Navy goal is the retention of high quality officers in numbers commensurate with the Navy's needs. The accomplishment of this goal requires increased attention to the task of satisfying the career needs of junior officers. In 1966, a 25-item Career Value Questionnaire was administered to active duty NROTC officers. Each item was rated on its importance as a vocational reward and its perceived obtainability in the Navy. The purpose of this study is to relate these responses to tenure status. Two types of scales were developed: (1) a rational set of scales based on Herzberg's two-factor theory, and (2) an empirical set of scales to maximize differentiation between high and low tenure officers. Congruence between and across importance and obtainability hierarchies (based on median scale ratings for each item) was investigated for high and low tenure officers. The empirically-derived scale utilizing both importance and obtainability ratings was highly related to tenure ($r = .55$ and $.54$). While high and low tenure officers agree in their ratings of the importance of the various work rewards, they tend to disagree in their perceptions of the obtainability of many of the most important rewards. Of the rewards considered most important by the low tenure officers, the following were considered the least obtainable: success through ability alone, full use of abilities, satisfactory home life, and work under consistent and intelligent personnel policies. These findings will be of interest to those concerned with the formulation of policies intended to improve the retention of junior officers.			

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Idell Neumann
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May 1972

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SUMMARY

A. Problem

A continuing Navy goal is the retention of high quality officers in numbers commensurate with the Navy's needs. The accomplishment of this goal requires increased attention to the task of satisfying the career needs of junior officers.

B. Background

In 1966, the Career Value Questionnaire was administered to 644 NROTC officers commissioned prior to 1962. The questionnaire consisted of 25 work-related items, each rated on a five-point scale to indicate: (a) the item's importance as a vocational reward, and (b) the probability of obtaining that reward in the Navy. Analysis of this questionnaire led to the conclusion that junior officers are generally more interested in the nature of their work than in career values tangential to their work. The purpose of the present report is to relate the questionnaire responses of the officers in the original sample to their actual retention.

C. Approach

Several types of scales were developed for scoring the questionnaire. One set of scales represented the factors "intrinsic" and "extrinsic" to the work itself, following Herzberg's two-factor theory of work motivation. Empirical scales were also constructed, utilizing both the importance and obtainability ratings for each item, in an attempt to achieve maximum differentiation between the high and low tenure officers.

Finally, an analysis was performed within tenure groups on the median importance and obtainability scale ratings obtained for each item. Profiles were constructed and the congruence between and across importance and obtainability hierarchies was investigated for the high and low tenure officers.

D. Findings, Conclusions, and Recommendations

1. The empirically-derived scale utilizing both importance and obtainability ratings was highly related to tenure ($r = .55$ and $.54$) (pg. 6).

2. While high and low tenure officers agree in their ratings of the importance of the various work rewards, they tend to disagree in their perceptions of the obtainability of many of the most important rewards (pgs. 11, 14).

3. Of the rewards considered most important by the low tenure officers, the following were considered the least obtainable: success through ability alone, full use of abilities, satisfactory home life, and work under consistent and intelligent personnel policies (pg. 15).

These findings will be of interest to those concerned with the formulation of policies intended to improve the retention of junior officers.

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THE VALUES OF JUNIOR OFFICERS. PART II. THE RELATIONSHIP BETWEEN CAREER VALUES AND RETENTION

A. BACKGROUND AND PURPOSE

An individual's attitude toward his work and its environment has a direct influence on his ultimate worth to the organization. If the work factors valued by the individual are available to him, the resulting positive attitudes should generate vocational satisfaction. Presumably, these positive attitudes would be reflected in both lower turnover rates and higher quality performance.

In their studies of factors leading to favorable job attitudes, Herzberg, Mausner, and Snyderman (1959) found that the determinants of job satisfaction were qualitatively different from the determinants of job dissatisfaction. Herzberg's subjects tended to attribute feelings of job satisfaction to "intrinsic" factors, that is, factors imbedded in the work itself such as the opportunity the job gave for achievement, recognition, responsibility and advancement. On the other hand, feelings of dissatisfaction were frequently ascribed to environmental factors extrinsic to the job, including inadequate company policies, supervision and general working conditions. Thus Herzberg and his co-workers concluded that improvement of the conditions surrounding the job might reduce dissatisfaction, but would not necessarily promote job satisfaction. Satisfaction would occur only if the tasks were intrinsically rewarding, i.e., if the tasks yielded opportunities for achievement, recognition, and the utilization of abilities.

In an investigation of such work factors in the Navy, Githens (1966) collected information from a sample of 644 NROTC officers commissioned prior to 1962. The Career Value Questionnaire (CVQ), consisting of intrinsic and extrinsic factors, required the officers to rate: (1) the importance of each factor to them as a vocational reward, as well as (2) the probability of obtaining each in a naval career. Analysis of this questionnaire led Githens to conclude that "junior officers are generally more interested in the nature of their work than in the career values tangential to their work."

Tenure information later became available, making it possible to relate the original questionnaire responses to retention. The intent was to investigate how well these factors predict the career decision and to determine further if the intrinsic or extrinsic factors are more potent in predicting tenure. It is expected that information obtained from these analyses could (1) be useful in the billet assignment of junior officers, and (2) indicate where job and policy modification is most needed.

B. PROCEDURE

1. Population

The population sampled in this study consisted of NROTC officers, commissioned in the years 1956-1961, who were on active duty in the fall of 1964. Questionnaires which were mailed to members of the sample were available for 488 officers.

2. Predictors

A subpart of the CVQ contained 25 work-factor items (see Appendix A). The items, for the most part, were based on a questionnaire developed by the Air Force (Downey, et al., 1964). Additional items were included for the present study in an attempt to ensure that the questionnaire represented a comprehensive list of the potentially important career values.

Each item represented an aspect of work that might have varying degrees of importance as a vocational reward for an officer. Factors such as "social prestige," "high quality of subordinates," "feelings of accomplishment," and "opportunity to do work my way" were evaluated on a five-point scale of importance, ranging from "extremely important" to "not important at all."

After the importance of each factor was rated as a vocational reward, each was again rated on the probability of obtaining that reward in the Navy. The five-point rating scale ranged from "very good" to "very unlikely."

If such information is to be considered in making policy changes, one would want the ratings to be stable over time. Shenk (1969) reported on a survey of career attitudes in which Air Force officers were retested each year with essentially the same attitudinal items. Approximately 17 of the 25 items administered to the Navy officers are either identical or nearly identical to items in the Air Force survey. Since correlation coefficients ranged from .96 to .99, it seems safe to assume that ratings of this type are quite stable over time.

3. Criteria

a. Tenure status. The sample was categorized on the basis of career status in November 1967. The low tenure group includes the 26 per cent of the sample (N=126) who left the Navy after serving less than five years active duty. The high tenure group consisted of 362 officers who remained on active naval duty from five to 10 years beyond their date of commission.

b. Satisfaction scale. An overall measure of job satisfaction was obtained by asking each individual to indicate how personally satisfying they considered their Navy careers. Subjects indicated their satisfaction by using a six-point rating scale ranging from "very dissatisfied" to "very satisfied."

4. Analyses

a. Rational scores. Six rationally derived career attitude scores were obtained for each junior officer. In accordance with Herzberg's two-factor theory of work motivation, the 25 CVQ items were categorized into two groups. The first group consisted of eight items which were labeled "intrinsic," since they described attitudes toward the job itself. The second group consisted of 17 items labeled "extrinsic," since they described the environmental features or the context within which the work was performed. Table 1 lists the items and the category to which each was assigned.

Three of the six rational scores were based on the importance ratings only, within and across the intrinsic-extrinsic dichotomy. Similarly the remaining three scores considered the man's importance rating of an item together with his obtainability rating, also within and across the intrinsic-extrinsic dichotomy. A complete description of how these scores were computed can be found in Appendix B.

b. Empirical scales. For purposes of empirical scale construction, the sample was divided equally into two subsamples, stratified on tenure and year commissioned. For each of the subsamples a bivariate distribution of importance and obtainability responses to each item was plotted. The obtainability and importance dimensions were dichotomized for each distribution to make cells a, b, c, and d as nearly equal as possible (see Figure 1). Thus, for each item a 2 x 2 table containing the frequency of each of the four response combinations was constructed. From these tables, two types of empirical scales were constructed.

(1) Empirical Importance - Obtainability scales (IMP-OBT:EMP). These scales were constructed by considering each cell as an item response and computing the percent difference in the endorsement rates for high and low tenure within each of the four cells, a, b, c, and d, in Figure 1. The actual percent difference between high and low tenure samples was assigned as the scoring weight to each cell having a difference of 10 per cent or more, irrespective of the intrinsic-extrinsic classification.

(2) Empirical Obtainability scales (OBT:EMP). These scales were constructed by examining items on the obtainability rating scale only, represented by a+c, and b+d, in Figure 1. The difference between the percentage of high and low tenure officers was also used for these scales as the weight for the particular response being

TABLE 1

Categorization of Items According to Intrinsic
and Extrinsic Definition

<u>Intrinsic Items</u>	
4. Interesting work	21. Opportunity to learn
10. Full use of abilities	22. Be given recognition for work well done
13. Feelings of accomplishment ✓	25. Opportunity to do work own way
16. Success through ability alone	
19. Be in a competitive situation,	
- - - - -	
<u>Extrinsic Items</u>	
1. Technically qualified superiors	14. Satisfactory home life ✓
2. Good pay ✓	15. Personally respected superiors
3. Steady employment	17. High quality of subordinates ✓
5. Serve country	18. Work under consistent and intelligent personnel policies
6. Travel	20. Have a definite work schedule
7. Steady advancement	23. Do work which my wife and family can be proud of
8. Early retirement ✓	24. High quality of fellow ✓ officers (peers)
9. Financial security ✓	
11. Social prestige ✓	
12. Active social life	

		Obtainability		
		High	Low	Total
Importance	High	a	b	a + b
	Low	c	d	c + d
	Total	a + c	b + d	a+b+c+d

Fig. 1. Example of an item-response contingency table used to construct empirical scales. A similar table was constructed for each of the 25 items.

keyed. By comparing the validity of this scale with that of the IMP-OBT:EMP Scale, the difference could be attributed to the importance dimension.

c. Value hierarchies. Before retention information was available, Githens (1966) determined the hierarchy of career values from the responses to the CVQ of the present junior officer sample. He found that they reported themselves to be generally more interested in the content of the work itself or the personal growth connected with their work than in the extrinsic aspect of the work environment. Shenk (1969) reported very similar findings in her Air Force sample. She concluded that "the factors considered most important by both services generally revolve around job satisfaction. . ."

Both the Navy and the Air Force results indicate little relationship between the perceived importance and the perceived obtainability of these vocational rewards. Since it may be reasonable to expect high tenure officers to have greater congruence between the importance and obtainability ratings than low tenure officers, the magnitude of congruence between the importance and obtainability hierarchies within tenure status was determined. In addition, the career and non-career officers were compared on their hierarchies of importance and their hierarchies of obtainability across all work factors as well as within intrinsic and extrinsic factors.

C. RESULTS AND DISCUSSION

1. Rational Scores

The correlations between the rational scores and retention ranged from -.12 to .24, the higher coefficients resulting from the scores that used both the importance and the probability ratings. Since the empirical scales were far superior to these rationally-derived scores, further discussion of results will be limited to the empirical scales. The derivation and results of the rational scores were included in the report only because they may be of interest to individuals concerned with Herzberg's two-factor theory.

2. Empirical Scales

A (a. Validity. Both types of empirically-constructed scales provided considerably better prediction of tenure on cross-validation samples than the rational scales (see Table 2). As with the rational scales, the IMP-OBT:EMP scales ($r_{pb} = .55$ and $.54$), utilizing obtainability information in combination with the importance ratings, are superior to the OBT:EMP scales using obtainability ratings only ($r_{pb} = .48$). However, since a strong relationship has been found between obtainability scores and tenure, it seems safe to state that the greater the number of vocational rewards that an officer perceives as obtainable in the Navy, the more likely he is to select a naval career. Sheard (1971), comparing Air Force junior officer groups differing in retention rates, also found differences in their perceptions of obtainability. For 11 of the 13 factors used in Sheard's study, the officers of the high retention rate group reported a significantly greater degree of obtainability than did the less career motivated officers.

The intercorrelations between rational and empirical scores and their means and standard deviations appear in Appendix C.

b. Empirical scale items. In an attempt to understand the relationship between the career values investigated in this study and an officer's career decision, the keyed items common to the IMP-OBT:EMP scales in both samples were examined (see Table 3).

It was expected that a greater percentage of high tenure than low tenure officers would tend to rate an item high on both dimensions. This expectation was confirmed. The 12 items that met the criterion for selection in the high importance, high obtainability category were all weighted positively. It is also logical that items keyed in the high importance, low obtainability category would be negatively related to high tenure. One would expect low tenure officers to perceive important items as less obtainable. Of the 14 value factors keyed in this category, all but one accord with this expectation.

Examining the keyed items in the two categories--high importance, high obtainability; and high importance, low obtainability, in terms of

TABLE 2
Correlations of Empirical Scales
With Tenure Status

Empirical Scale	Sample 1 (N=244)	Sample 2 (N=244)
IMP-OBT:EMP	.55** (22) ^a	.54** (22)
OBT:EMP	.48** (21)	.48** (18)

Note.--

^aNumbers in parentheses refer to the number of items in the scale for the particular sample.

** $r_{pb} \geq .17$, $p \leq .01$.

TABLE 3

Key for Items Rated High in Importance by
Officers in Total Sample

No.	Item Description	Intrinsic, Extrinsic	High Importance, High Obtainability	High Importance, Low Obtainability
1.	Technically qualified superiors	E	+ ^a	- ^b
4.	Interesting work	I	+	-
5.	Serve country	E	+	
6.	Travel	E	+	
8.	Early retirement	E		+
10.	Use of abilities	I	+	-
13.	Feelings of accomplish- ment	I	+	-
14.	Home life	E	+	-
15.	Respected superiors	E	+	-
16.	Success through ability	I		-
17.	High quality subordinates	E	+	
18.	Consistent, intelligent personnel policies	E		-
19.	Competitive situation	I	+	-
20.	Definite work schedule	E		-
21.	Opportunity to learn	I		-
23.	Family pride	E		-
24.	High quality peers	E	+	
25.	Opportunity to do work own way	I	+	-

Note.--

^a(+)High tenure officers rate item this way more than low tenure officers.

^b(-)Low tenure officers rate item this way more than high tenure officers.

the intrinsic-extrinsic dichotomy, it appears that the intrinsic items have a greater influence on retention than the extrinsic. For example, of the 16 possibilities for keying the eight intrinsic items in these two categories, 12 held up on both samples. Of the 34 extrinsic items (17 in each category) possible for keying, only 14 items were selected. Thus, 75 per cent of the available intrinsic responses compared to 41 per cent for the extrinsic items were related to the tenure criterion.

Item 22, "be given recognition for work well done" is the only intrinsic item that was not keyed in both samples for either category; high importance, high obtainability, or high importance, low obtainability. Since all the other intrinsic items predicted tenure in the expected direction, a difference in interpretation of the "recognition" item was suspected. Some of the officers might have regarded recognition as an extrinsic factor while the others viewed it as more closely tied to the work itself.

A further comparison of intrinsic and extrinsic items may be made by an evaluation of the item validities. The percent difference between high and low tenure officers may be used as an index of item response validity. The average percent difference is 24.9 for the valid responses to intrinsic factors versus 18.2 for the extrinsic factors (minimum percent difference is 10). This difference provides additional evidence that work-related factors are more highly related to retention than environmental factors.

3. The Relationships Between the Empirical Importance-Obtainability Scale, Satisfaction, and Tenure

It has been demonstrated that the IMP-OBT:EMP Scale effectively differentiates between high and low tenure officers. Further, the empirical scale is very significantly related to the overall Satisfaction Scale, $r = .53$ for Sample 1, $.40$ for Sample 2 (see Appendix C). However, since data on the satisfaction question revealed considerable variation in satisfaction within both high and low tenure samples, the question arises whether the IMP-OBT:EMP Scale can discriminate between satisfied and dissatisfied officers within the high and low tenure groups.

In order to evaluate the empirical scale for various levels of satisfaction within tenure status, the two samples were combined by standardizing each IMP-OBT:EMP scale within its own sample to a mean of 50 and a standard deviation of 10. Means were computed within the trichotomized satisfaction measure separately for high and low tenure officers (see Table 4). It can be seen from Table 4 that the IMP-OBT:EMP Scale differentiates within each tenure group for the three levels of career satisfaction. Further, the mean IMP-OBT:EMP score for the least satisfied high tenure officers is higher than the mean IMP-OBT:EMP score for the most satisfied low tenure officers.

4. The Relationships Between Career Values, Their Obtainability, and Tenure Status

To compare career and non-career groups on the perceived importance and obtainability of the 25 items, a median importance and obtainability

TABLE 4

Empirical Scale Standard Score Means and Standard Deviations
Within Satisfaction Category by Tenure Status

Satisfaction Scale	Tenure						Total		
	High			Low					
	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.
6 (very satisfied)	189	56.10	7.586	36	43.72	8.419	225	54.12	8.955
5 (satis- fied)	144	50.70	7.839	43	41.97	7.551	187	48.69	8.613
1-4 (not satisfied)	23	45.66	9.111	45	37.49	8.120	68	40.25	9.323
Totals	356	53.24	8.460	124	40.85	8.449	480 ^a	50.04	10.040

Note.--

^aThe reduced sample size is due to missing data on the Satisfaction Scale.

rating was obtained for each item by career status.¹ In addition, the median values were rank-ordered separately for the high and low tenure officers, within the intrinsic and extrinsic categories. These data are presented in Appendix D.

In comparing high and low tenure officers, four unique comparisons are possible. Within the extrinsic and intrinsic item sets, they may be compared on importance and obtainability ratings. Within each of these four comparisons they may differ in several ways: (1) high and low tenure officers may rank the factors differently, (2) they could rank the items in identical order but differ in their median ratings, or (3) they could differ in congruence between importance and obtainability ratings.

¹A median importance and a median obtainability score were computed for each item using weights assigned to each of the ratings (a weight of 4 to the highest mark in each category, a 3 to marks in the next highest, down to a weight of 0 for the lowest category).

To compare the high and low tenure officers on the importance and obtainability ratings of both intrinsic and extrinsic factors, several profiles were constructed, utilizing the item ratings just described. Using the rankings previously obtained, rank-order correlations (ρ) were computed for each profile.

a. Profile comparisons for high and low tenure officers on importance and obtainability ratings. The profiles in Figure 2 focus on comparing the high and low tenure officers on the importance attributed to both intrinsic and extrinsic items as well as their perceptions of obtainability. For example, the profiles in Figure 2A indicate that high and low tenure officers are virtually identical in the relative importance they attribute to each of the intrinsic items ($\rho = .98$). However, the profiles in Figure 2B show somewhat less agreement with regard to the obtainability values ($\rho = .84$). On the average, the low tenure officers consider every intrinsic reward less obtainable than do the high tenure officers ($\bar{X}_{HI} = 2.72$, $\bar{X}_{LO} = 2.12$).

Figure 2C provides mean profiles on the importance attributed to extrinsic items. First, by comparison with 2A, it may be noted that extrinsic items are generally considered less important than are the intrinsic, regardless of tenure status. Secondly, with the extrinsic items, there is slightly less agreement in the relative order than for intrinsic items. In general, though, it is evident that importance ratings alone are rather poor discriminators of career status.

The high and low tenure officers agree less on the obtainability of the more important extrinsic items (first eight items in Profile 2D) than the obtainability of the less important ones (last nine items of 2D). As with the intrinsic items, although the high and low tenure officers tend to agree almost perfectly on rank-ordering the obtainability of the extrinsic items, the career officer generally perceives these items (upper half of Figure 2D) as more obtainable. The largest differences in how high and low tenure officers view each of the items are found in the three items considered amongst the most important by both officer groups, namely, a satisfactory home life, personally respected and technically qualified superiors.

b. Congruence of importance and obtainability ratings for high and low tenure officers. Figure 3 presents the same profiles as Figure 2, but rearranged to facilitate their interpretation. Figure 3A represents the largest of the four rank-order correlations computed to assess the within-group congruence between importance and obtainability. The obtained rho of .62 suggests that high tenure officers tend to believe the important work-related items are obtainable in the Navy.

One might infer from the rho of $-.48$ (Figure 3D) that low tenure officers are dissatisfied with the obtainability of extrinsic rewards. A closer inspection of the direction of the individual item discrepancies suggests that this might not be the case. Almost half of the extrinsic factors are rated as more obtainable than important by the non-career officers. Differences in this direction contributed substantially to the negative rho even though one would not expect factors of low importance to influence career decision.

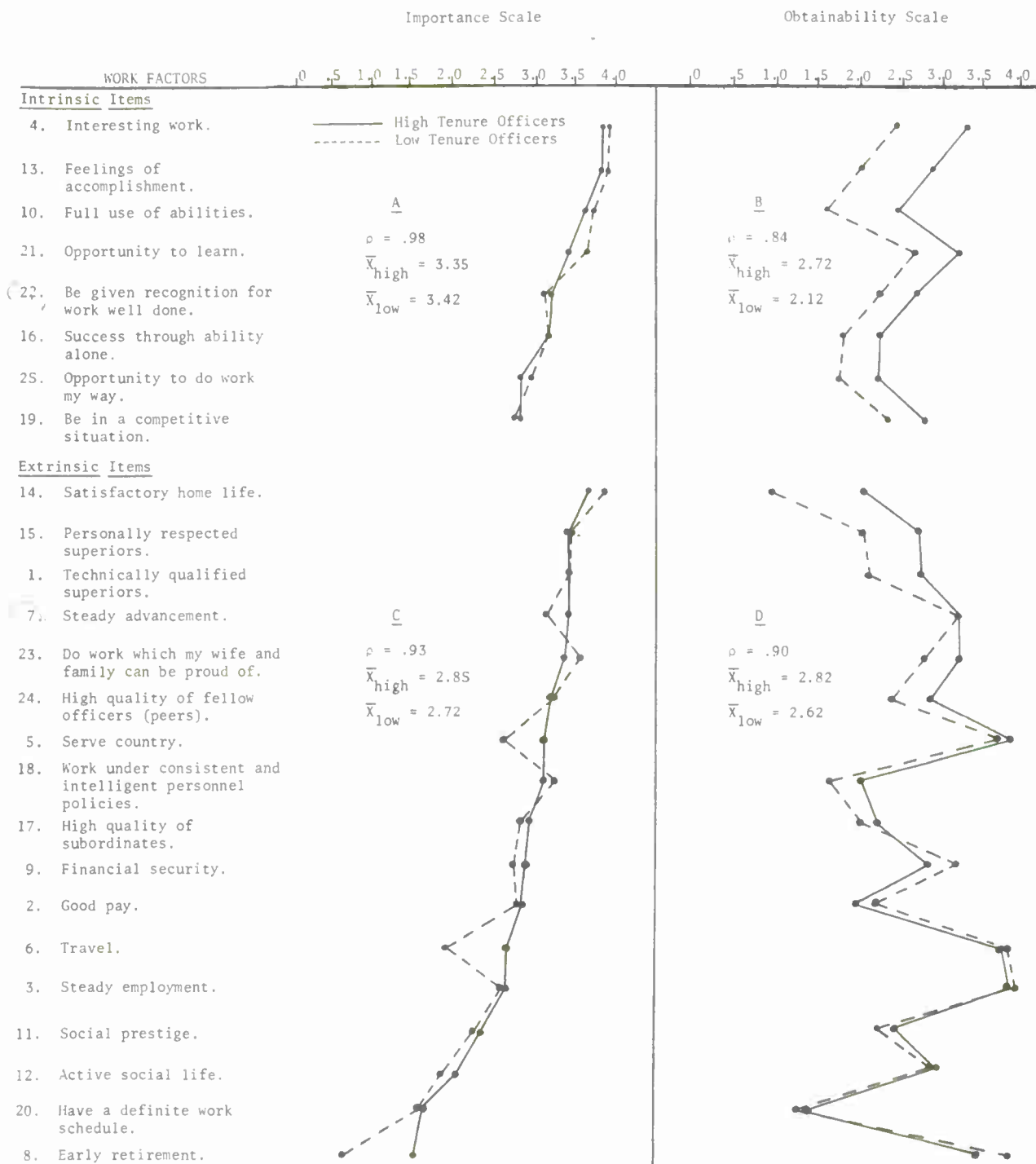


Figure 2. Profiles showing the congruence between high and low tenure officers for the importance and obtainability scales.

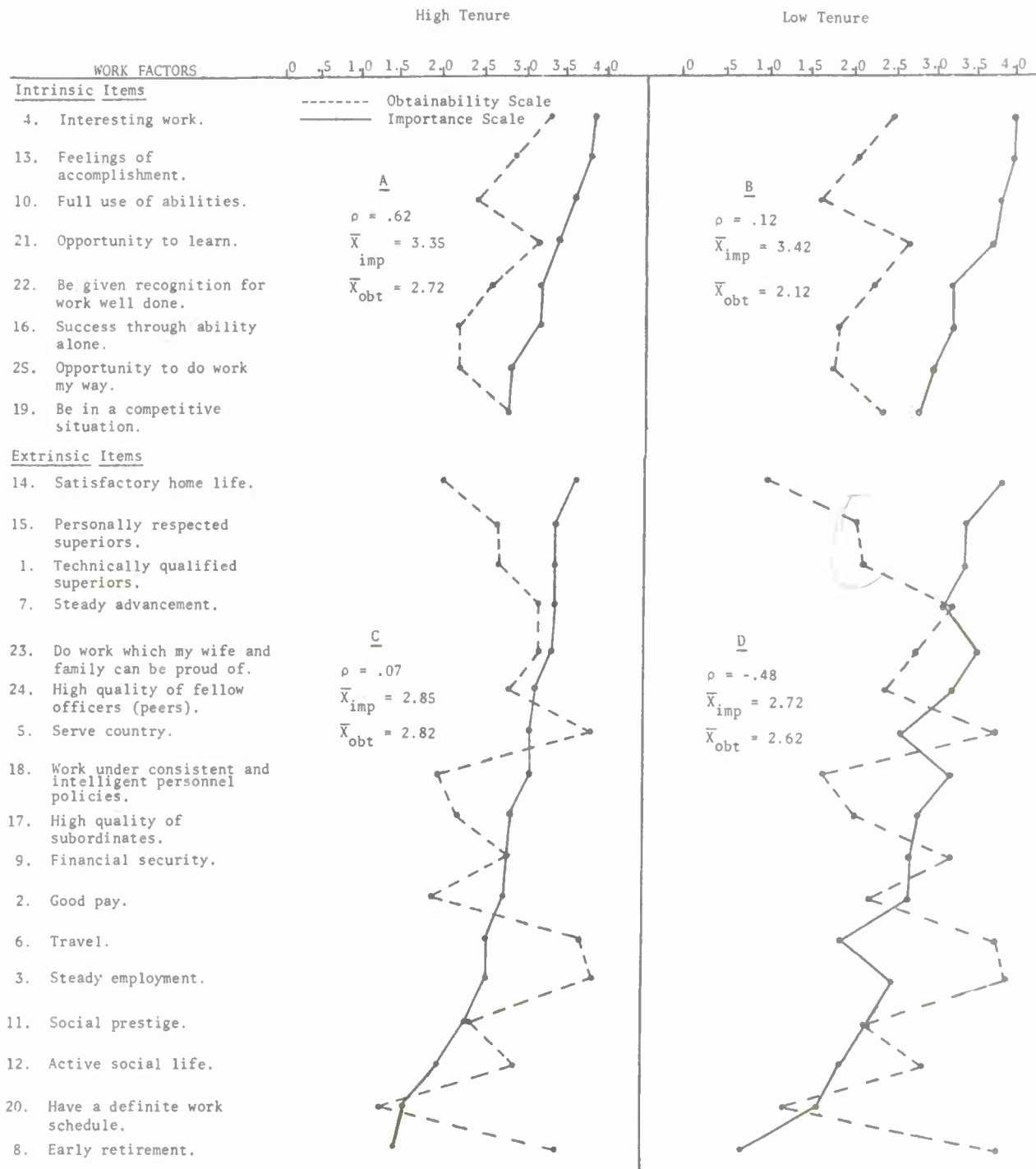


Figure 3. Profiles showing the congruence between importance and obtainability scales for high and low tenure officers.

c. Differences between median ratings of importance and obtainability by low tenure officers. Figures 3B and 3D reveal the magnitude of the differences between the median importance and obtainability ratings for low tenure officers. The discrepancies of most concern are, of course, those in which the importance ratings exceed the obtainability ratings. The four largest such discrepancies occur on "full use of abilities (10)," "feelings of accomplishment (13)," "satisfactory home life (14)," and "work under consistent and intelligent personnel policies (18)." Three of these items, 10, 13, and 14, are also among the four items considered the most important by low tenure officers.

Other studies have also reported poor utilization as a major source of dissatisfaction among military personnel. Van Cleve (1971), for instance, reported that poor utilization of abilities negatively influenced job satisfaction in the Marine Corps. Robertson (1966) found that considerably more non-career than career oriented pilots indicated a preference for a "strictly pilot" type career as opposed to a career as a traditional unrestricted officer. "Satisfactory home life" does not relate to utilization, but presumably if officers were able to make "full use of (their) abilities" and derive "feelings of accomplishment" from their assignments, the resulting positive effects might partially affect the adverse effects of long tours of sea duty.

5. Limitations and Implications

Improving the utilization of junior officers is more easily proposed than accomplished. A proposal for research on "job enrichment" was made several years ago at the Airlie House Navy Seminar on Retention Research (Department of the Navy, 1968), but such research has not yet been undertaken. In his statement of management philosophy, the Chief of Naval Personnel, VADM D. H. Bagley (1972), has included the following relevant objective: "Identify those officers possessing special education, experience and interest in a field not covered by a sub-specialty (e.g., ecology and sociology) and, whenever practicable, assign them to jobs in which their expertise can be used at least on a collateral duty basis."

If the findings of the present research are to be of maximum use to policy makers concerned with improving the retention of junior officers, specific, implementable interpretations of the concepts of "job enrichment" and "improved utilization" must be obtained. Some light has been cast on the matter by Lacey's (1969) analysis of the written comments of junior officers who were asked to respond to open-ended questions regarding satisfying incidents in their Navy careers. However, a more extensive, carefully designed study is needed to compare the effects of various means of satisfying the career values now regarded by junior officers as poorly fulfilled.

Any program designed to increase the utilization of junior officers' abilities and their feelings of accomplishment should take account of the

large differences in the needs and interests of individual officers. Although some officers maintain that their training in their college major is ignored by the Navy in making assignments (Lacey, 1969), other officers may regard the need to adapt to new and different assignments as an exciting challenge, and as a positive aspect of a Navy career. The Strong Vocational Interest Blank, which has heretofore been used primarily in officer selection (e.g., Abrahams & Neumann, 1971) might prove to be a valuable tool in counseling and assigning officers so as to maximize retention. Another possibility that should be recognized is that there may be irreconcilable differences between the values and interests of some officer applicants and the needs of the Navy. In such cases improved selection, rather than improved utilization, may be the most appropriate solution.

D. CONCLUSIONS

The following conclusions and recommendations derive from this study:

1. While high and low tenure officers tend to agree on the importance of various career values, differences do exist on how the two tenure groups perceive the obtainability of these values. As expected, the low tenure officers consider many of the items rated important to be less obtainable than do high tenure officers.

2. Low tenure officers considered four items "extremely important" or "somewhat above average in importance" and the probability of obtaining these rewards in the Navy either "not very likely" or "very unlikely." These four items were:

- Full use of abilities.
- Satisfactory home life.
- Success through ability alone.
- Work under consistent and intelligent personnel policies.

Several additional items were also rated as "extremely important" or "somewhat above average in importance" but with only "fair" likelihood of being obtainable in the Navy:

- Technically qualified superiors.
- Feelings of accomplishment.
- Personally respected superiors.
- Be given recognition for work well done.
- High quality of fellow officers (peers).

A more detailed study of these factors will be required to make full use of the findings in developing policies for improving retention

of junior officers. In particular, research is needed on how job enrichment or redesign may be used to enhance the attractiveness of a naval career.

3. In some cases there may be irreconcilable differences between an individual's career values and those the Navy can offer. Improved selection is the best way of avoiding such problems. An empirical scale utilizing ratings of "importance" and "obtainability" was found to be highly related to tenure ($r_{pb} = .55$ or $.54$ for two independent samples). The possibility of being able to use this scale in the selection of officer candidates requires further research to determine whether high school seniors are able to express their "career needs" prior to selection.

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(REVERSE SIDE BLANK)

APPENDIX A

CAREER VALUE QUESTIONNAIRE

For the items in the list below, please circle a letter (A, B, C, D, or E) to indicate how important that item is to you personally as a vocational reward. After you have indicated the importance to you of that item, circle a number (1, 2, 3, 4, or 5) to indicate how likely you feel you are to receive that reward in the Navy. Use these codes:

Importance to You

Probability of Being Rewarded in Navy

- A. Extremely important.
- B. Somewhat above average in importance.
- C. Of average importance.
- D. Somewhat below average in importance.
- E. Not important at all.

- 1. Very good.
- 2. Pretty good.
- 3. Fair.
- 4. Not very likely.
- 5. Very unlikely.

ITEMS

IMPORTANCE High Low

PROBABILITY High Low

1. Technically qualified superiors.	A	B	C	D	E	1	2	3	4	5
2. Good pay.	A	B	C	D	E	1	2	3	4	5
3. Steady employment.	A	B	C	D	E	1	2	3	4	5
4. Interesting work.	A	B	C	D	E	1	2	3	4	5
5. Serve country.	A	B	C	D	E	1	2	3	4	5
6. Travel.	A	B	C	D	E	1	2	3	4	5
7. Steady advancement.	A	B	C	D	E	1	2	3	4	5
8. Early retirement.	A	B	C	D	E	1	2	3	4	5
9. Financial security.	A	B	C	D	E	1	2	3	4	5
10. Full use of abilities.	A	B	C	D	E	1	2	3	4	5
11. Social prestige.	A	B	C	D	E	1	2	3	4	5
12. Active social life.	A	B	C	D	E	1	2	3	4	5
13. Feelings of accomplishment.	A	B	C	D	E	1	2	3	4	5
14. Satisfactory home life.	A	B	C	D	E	1	2	3	4	5
15. Personally respected superiors.	A	B	C	D	E	1	2	3	4	5
16. Success through ability alone.	A	B	C	D	E	1	2	3	4	5
17. High quality of subordinates.	A	B	C	D	E	1	2	3	4	5
18. Work under consistent and intelligent personnel policies.	A	B	C	D	E	1	2	3	4	5
19. Be in a competitive situation.	A	B	C	D	E	1	2	3	4	5
20. Have a definite work schedule.	A	B	C	D	E	1	2	3	4	5
21. Opportunity to learn.	A	B	C	D	E	1	2	3	4	5
22. Be given recognition for work well done.	A	B	C	D	E	1	2	3	4	5
23. Do work which my wife and family can be proud of.	A	B	C	D	E	1	2	3	4	5
24. High quality of fellow officers (peers).	A	B	C	D	E	1	2	3	4	5
25. Opportunity to do work my way.	A	B	C	D	E	1	2	3	4	5

APPENDIX B

RATIONAL SCORES

Six rationally derived career attitude scores were obtained for each junior officer. In accordance with Herzberg's two-factor theory of work motivation, the 25 Career Value Questionnaire (CVQ) items were categorized into two groups. The first group consisted of eight items which were labeled "intrinsic," since they described attitudes toward the job itself. The second group consisted of 17 items labeled "extrinsic," since they described the environmental features or the context within which the work was performed. Table 1 lists the items and the category to which each was assigned.

1. Importance scores. The intent of these scores was to examine the relationship between the rated importance of different types of work factors and career decision, and determine if one of the item sets, intrinsic or extrinsic, is more highly related to tenure than the other.

The importance ratings were quantified for each of the 25 items by assigning a numerical value of "2" to factors rated "extremely important," "1" to those rated "somewhat above average in importance," and "0" to items with lower importance ratings. These item weights were used to generate three scores as follows:

a. Intrinsic Importance Score (INTR-IMP). This score is the sum of importance ratings for the intrinsic items.

b. Extrinsic Importance Score (EXTR-IMP). Similarly, this score is the sum of importance ratings for the extrinsic items.

c. Total Importance Score (TOT-IMP). This score is the sum of the importance ratings across all 25 items.

2. Weighted importance scores. A second set of rational scores was derived to measure an officer's attitude toward the job itself by considering not only how important he rated each of the items, but also how obtainable in the Navy they appeared to be. If a particular item was considered unimportant by an individual officer, it is doubtful if its level of perceived obtainability in the Navy would have much effect on his career decision. On the other hand, the degree of perceived obtainability of a highly important item should be related to the tenure criterion.

The obtainability ratings were quantified by assigning a numerical score ranging from 5 through 1 to the responses ordered from "very good" to "very unlikely." For each respondent the product of his importance and obtainability rating was obtained for each of the 25 items. Three scales were generated as follows:

a. Weighted Intrinsic Score (IMPxOBT:INTR). This score was the sum of importance-obtainability products for the intrinsic item set.

b. Weighted Extrinsic Score (IMPxOBT:EXTR). This is an analogous score for the extrinsic item set.

c. Weighted Total Score (IMPxOBT:TOT). The IMPxOBT:INTR and IMPxOBT:EXTR scores were summed for each individual to obtain a product score over all 25 items.

APPENDIX C

TABLE 5

Intercorrelations, Means, and Standard Deviations for Sample 1 (N=244)

Variable	Variable											Mean	Standard Deviation
	2	3	4	5	6	7	8	9	10	11	12		
<u>Rational Scales</u>													
1. IMP: INTR	57	82	77	44	61	01	-06	19	15	-03	-07	10.528	3.017
2. IMP: EXTR		94	58	84	79	27	26	34	31	18	06	15.520	5.076
3. IMP: TOT			73	77	81	19	16	32	28	12	02	26.049	7.230
4. IMPxOBT: INTR				69	84	50	46	63	60	30	21	38.795	15.174
5. IMPxOBT: EXTR					94	48	49	54	52	30	15	59.590	26.502
6. IMPxOBT: TOT						49	48	59	56	32	17	99.204	38.578
<u>Empirical Scales</u>													
7. IMP -OBT: EMP1							97	91	92	55	55	417.430	169.981
8. IMP -OBT: EMP2								89	91	53	54	505.963	159.325
9. OBT: EMP1									99	54	48	5.229	249.197
10. OBT: EMP2										54	48	.655	230.536
<u>Criteria</u>													
11. Satisfaction											42	5.160	1.118
12. Tenure											--	.742	.439

Note.--

1. All decimal points are omitted.

2. Scales IMP-OBT:EMP2 and OBT:EMP2 are key-construction validities.

3. Scales IMP-OBT:EMP1 and OBT:EMP1 are cross-validities.

*If $r > .127$, $p \leq .05$.**If $r > .166$, $p \leq .01$.

APPENDIX C

TABLE 6

Intercorrelations, Means, and Standard Deviations for Sample 2 (N=244)

Variable	Variable												Standard Deviation
	2	3	4	5	6	7	8	9	10	11	12	Mean	
Rational Scales													
1. IMP:INTR	42	72	75	39	59	01	-10	10	10	12	-12	10.795	2.757
2. IMP:EXTR		93	40	95	86	24	23	26	27	05	12	15.495	5.219
3. IMP:TOT			61	88	89	19	14	24	24	09	05	26.290	6.853
4. IMPxOBT:INTR				50	74	47	37	53	52	27	18	39.537	12.646
5. IMPxOBT:EXTR					93	45	45	47	47	17	24	58.566	23.640
6. IMPxOBT:TOT						50	46	54	54	22	22	98.516	31.895
Empirical Scales													
7. IMP-OBT:EMP ₁							96	93	92	40	48	410.694	159.837
8. IMP-OBT:EMP ₂								91	92	39	48	505.578	159.255
9. OBT:EMP ₁									99	42	48	4.000	236.757
10. OBT:EMP ₂										40	53	11.471	228.404
Criteria													
11. Satisfaction											32	5.179	1.115
12. Tenure											--	.742	.439

Notes.--

1. All decimal points are omitted.
2. Scales IMP-OBT:EMP₁ and OBT:EMP₁ are key-construction validities.
3. Scales IMP-OBT:EMP₂ and OBT:EMP₂ are cross-validities.

*If $r \geq .127$, $p \leq .05$.**If $r \geq .166$, $p \leq .01$.

TABLE 7

Median Importance and Obtainability Ratings for Each Item by Tenure Status

Item Number	High Tenure					Low Tenure				
	Importance		Obtainability		Differences in Median Rating	Importance		Obtainability		Differences in Median Rating
	Median Rating	Rank Within Category	Median Rating	Rank Within Category		Median Rating	Rank Within Category	Median Rating	Rank Within Category	
<u>Intrinsic</u>										
4. Interesting work.	3.86	1	3.30	1	.56	3.92	1	2.45	2	1.47
13. Feelings of accomplishment.	3.84	2	2.89	3	.95	3.91	2	2.03	5	1.88
10. Full use of abilities.	3.62	3	2.49	6	1.13	3.77	3	1.60	8	2.17
21. Opportunity to learn.	3.43	4	3.20	2	.23	3.67	4	2.67	1	1.00
22. 8e given recognition for work well done.	3.21	5	2.66	5	.55	3.15	6	2.28	4	.87
16. Success through ability alone.	3.19	6	2.24	7	.95	3.19	5	1.82	6	1.37
25. Opportunity to do work my way.	2.86	7	2.21	8	.65	2.96	7	1.75	7	1.21
19. 8e in a competitive situation.	2.81	8	2.80	4	.01	2.80	8	2.35	3	.45
<u>Extrinsic</u>										
14. Satisfactory home life.	3.68	1	2.09	14	1.59	3.86	1	.94	17	1.92
15. Personally respected superiors.	3.43	2.5	2.74	11	.69	3.47	3	2.06	13	1.41
1. Technically qualified superiors.	3.43	2.5	2.77	10	.66	3.44	4	2.13	12	1.31
7. Steady advancement.	3.41	4	3.22	5.5	.19	3.18	7	3.23	6	-.05
23. 0o work which my wife and family can be proud of.	3.39	5	3.22	5.5	.17	3.55	2	2.85	8	.70
24. High quality of fellow officers (peers).	3.21	6	2.90	8	.31	3.21	6	2.42	9	.79
5. Serve country.	3.14	7	3.87	1	-.63	2.65	11	3.77	4	-1.12
18. Work under consistent and intelligent personnel policies.	3.13	8	2.05	15	1.08	3.24	5	1.67	15	1.57
17. High quality of subordinates.	2.92	9	2.24	13	.68	2.89	8	2.02	14	.87
9. Financial security.	2.88	10	2.89	9	-.01	2.80	9	3.24	5	-.44
2. Good pay.	2.81	11	1.97	16	.84	2.79	10	2.24	11	.55
6. Travel.	2.66	12	3.78	3	-1.12	1.91	14.5	3.81	3	-1.90
3. Steady employment.	2.64	13	3.84	2	-1.20	2.59	12	3.94	1	-1.35
11. Social prestige.	2.37	14	2.44	12	-.07	2.30	13	2.26	10	-.04
12. Active social life.	2.07	15	2.99	7	-.92	1.91	14.5	2.93	7	-1.02
20. Have a definite work schedule.	1.65	16	1.37	17	.28	1.65	16	1.26	16	.39
8. Early retirement.	1.55	17	3.50	4	-1.95	.74	17	3.84	2	-3.10

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